

Claims

Sub B1
A 1 1. An article intended to be submerged in molten zinc and low percentage
2 aluminum/zinc melts, said article comprised of a steel alloy material having the
3 following composition:

	%	<u>Component</u>	%
5	1.0	< C <	5.0
6	10.0	< Cr <	30.0
7	0.0	\leq Ni <	30.0
8	1.0	< W <	15.0
9	1.0	< Mo <	10.0
10	0.0	< V <	10.0
11	0.0	< Nb <	10.0
12	0.0	< Co <	20.0
13	0.0	< B <	5.0
14	10.0	< Fe <	50.0
15	0.0	\leq Zr \leq	6.0
16	0.0	< Mn <	5.0
17	0.0	\leq Si <	1.0

1 2. An article formed of an alloy as defined in Claim 1, in which the alloy
2 has a carbon element which is greater than 1.6% and less than 2.6% by weight.

1 3. An article formed of an alloy as defined in Claim 1, in which the alloy
2 has a chromium element which is greater than 15% and less than 30% by weight.

1 4. An article formed of an alloy as defined in Claim 1, in which the alloy
2 has a molybdenum element which is greater than 2% and less than 8% by weight.

1 5. An article formed of an alloy as defined in Claim 1, in which the alloy
2 has a vanadium element which is equal to or greater than 0% and less than 6%
3 by weight.

1 6. An article formed of an alloy as defined in Claim 1, in which the alloy
2 has a niobium element which is equal to or greater than 0% and less than 6% by
3 weight.

1 7. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a chromium element which is greater than 16% and less than 24% by
4 weight.

1 8. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a nickel element which is equal to or greater than 0% and less than 2%
4 by weight.

1 9. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a tungsten element which is greater than 15% and less than 25% by
4 weight.

1 10. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a molybdenum element which is greater than 4% and less than 8% by
4 weight.

1 11. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a vanadium element which is greater than 4% and less than 6% by
4 weight.

1 12. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a niobium element which is equal to or greater than 0% and less than 2%
4 by weight.

1 13. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a cobalt element which is equal to or greater than 0% and less than 15%

4 by weight.

1 14. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has a boron element which is equal to or greater than 0% and less than 2%
4 by weight.

1 15. An article submerged in a zinc/aluminum alloy melt containing more
2 than 50% aluminum and formed of an alloy as defined in Claim 1, in which the
3 alloy has an iron element which is greater than 35% and less than 45% by weight.

7 16. An article formed of an alloy as defined in Claim 1, in which the alloy
has a zirconium element which is equal to or greater than 0% and less than 6%
by weight.

1 8 17. An article formed of an alloy as defined in Claim 1, in which the
2 amount of the article lost due to molten metal dissolution is less than 4×10^{-5}
3 inches per hour.

1 18. An article formed of an alloy as defined in Claim 1, in which the
2 selected element is in a carbide form of the element.

1 19. An article formed of an alloy as defined in Claim 1, having a Rockwell

2 hardness greater than 40.

1 || 20. An article formed of an alloy as defined in Claim 1, in which the alloy
2 is centrifugally castable.

1 21. An article formed of an alloy as defined in Claim 1, in which the alloy
2 is machinable.

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